

Abstract

The specification discloses a continuous process for producing hydrogen chloride whereby sulfuric acid and an alkali metal chloride are fed to a direct fired reaction chamber in a molar ratio of approximately one to one, products comprising hydrogen chloride and the corresponding alkali metal sulfate are withdrawn, and the hydrogen chloride is separated from combustion gases. The reaction chamber provides for the counter flow of gaseous and solid streams within the reaction chamber, such that a chloride-free sulfate is obtained.